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TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A SUBMISSION UNDER 35 U.S.C. 371		ATTORNEY'S DOCKET NUMBER JHU1910-5
INTERNATIONAL APPLICATION NO. PCT/US2003/035734	INTERNATIONAL FILING DATE November 10, 2003	U.S. APPLICATION NUMBER (if known, see 37 CFR 1.5) 107533514
PRIORITY DATE November 8, 2002		
TITLE OF INVENTION HUMAN EMBRYONIC STEM CELL CULTURES, AND COMPOSITIONS AND METHODS FOR GROWING SAME		
APPLICANT(S) FOR DO/EO/US Linzha Cheng		
Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:		
<p>1. <input checked="" type="checkbox"/> This is a FIRST submission of items concerning a submission under 35 U.S.C. 371.</p> <p>2. <input type="checkbox"/> This is a SECOND or SUBSEQUENT submission of items concerning a submission under 35 U.S.C. 371.</p> <p>3. <input checked="" type="checkbox"/> This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below.</p> <p>4. <input checked="" type="checkbox"/> The US has been elected (Article 31).</p> <p>5. <input checked="" type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371 (c)(2))</p> <ol style="list-style-type: none"> <input type="checkbox"/> is attached hereto (required only if not communicated by the International Bureau). <input type="checkbox"/> has been communicated by the International Bureau. <input checked="" type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US). <p>6. <input type="checkbox"/> An English language translation of the International Application as filed (35 U.S.C.)</p> <ol style="list-style-type: none"> <input type="checkbox"/> is attached hereto. <input type="checkbox"/> has been previously submitted under 35 U.S.C. 154(d)(4). <p>7. <input checked="" type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371 (c)(3))</p> <ol style="list-style-type: none"> <input type="checkbox"/> are attached hereto (required only if not communicated by the International Bureau). <input type="checkbox"/> have been communicated by the International Bureau. <input checked="" type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired. <input type="checkbox"/> have not been made and will not be made. <p>8. <input type="checkbox"/> An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).</p> <p>9. <input checked="" type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)). (unsigned)</p> <p>10. <input type="checkbox"/> An English language translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371 (c)(5)).</p>		
<p>Items 11 to 20 below concern document(s) or information</p> <p>11. <input type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98.</p> <p>12. <input type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.</p> <p>13. <input checked="" type="checkbox"/> A preliminary amendment.</p> <p>14. <input type="checkbox"/> An application Data Sheet under 37 CFR 1.76.</p> <p>15. <input type="checkbox"/> A substitute specification.</p> <p>16. <input type="checkbox"/> A power of attorney and/or change of address letter.</p> <p>17. <input type="checkbox"/> A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1.821 - 1.825.</p> <p>18. <input type="checkbox"/> A second copy of the published International Application under 35 U.S.C. 154(d)(4).</p> <p>19. <input type="checkbox"/> A second copy of the English language translation of the International Application under 35 U.S.C. 154(d)(4).</p> <p>20. <input checked="" type="checkbox"/> Other items or information: Certificate of Mailing under 37 CFR 1.10 (EV 627 501 979 US); Check No. 577448 in the amount of \$1,865.00; Return Receipt Postcard</p>		

This collection of information is required by 37 CFR 1.414 and 1.491-1.492. The information is required to obtain or retain a benefit by the public, which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 15 minutes to complete, including gathering information, preparing, and submitting the completed form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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U.S. APPLICATION NO. (if known, see 37 CFR	INTERNATIONAL APPLICATION NO.	ATTORNEY'S DOCKET NUMBER																												
10/533514	PCT/US2003/035734	JHU1910-5																												
The following fees are submitted:																														
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%; padding: 2px;"><input checked="" type="checkbox"/> Basic national fee</td> <td style="width: 10%; text-align: right; padding: 2px;">\$300</td> <td style="width: 30%; padding: 2px;">CALCULATIONS</td> <td style="width: 10%; text-align: right; padding: 2px;">PTO USE ONLY</td> </tr> <tr> <td><input checked="" type="checkbox"/> Examination fee If International preliminary examination report prepared by USPTO and all claims satisfy provisions of PCT Article 33(1)-(4)</td> <td style="text-align: right; padding: 2px;">\$100</td> <td style="text-align: right; padding: 2px;">\$</td> <td style="text-align: right; padding: 2px;">\$200.00</td> </tr> <tr> <td>All other situations.</td> <td style="text-align: right; padding: 2px;">\$200</td> <td></td> <td></td> </tr> <tr> <td><input checked="" type="checkbox"/> Search fee Search fee (37 CFR 1.445(a)(2)) has been paid on the international application to the USPTO as an International Searching Authority</td> <td style="text-align: right; padding: 2px;">\$100</td> <td></td> <td></td> </tr> <tr> <td>International Search Report prepared and provided to the Office</td> <td style="text-align: right; padding: 2px;">\$400</td> <td></td> <td></td> </tr> <tr> <td>All other situations.</td> <td style="text-align: right; padding: 2px;">\$500</td> <td style="text-align: right; padding: 2px;">\$</td> <td style="text-align: right; padding: 2px;">\$100.00</td> </tr> <tr> <td colspan="2" style="text-align: right; padding: 2px;">TOTAL OF 21, 22 and 23 =</td> <td></td> <td style="text-align: right; padding: 2px;">\$600.00</td> </tr> </table>			<input checked="" type="checkbox"/> Basic national fee	\$300	CALCULATIONS	PTO USE ONLY	<input checked="" type="checkbox"/> Examination fee If International preliminary examination report prepared by USPTO and all claims satisfy provisions of PCT Article 33(1)-(4)	\$100	\$	\$200.00	All other situations.	\$200			<input checked="" type="checkbox"/> Search fee Search fee (37 CFR 1.445(a)(2)) has been paid on the international application to the USPTO as an International Searching Authority	\$100			International Search Report prepared and provided to the Office	\$400			All other situations.	\$500	\$	\$100.00	TOTAL OF 21, 22 and 23 =			\$600.00
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TOTAL OF 21, 22 and 23 =			\$600.00																											
<input type="checkbox"/> Additional fee for specification and drawings filed in paper over 100 sheets (excluding sequence listing or computer program listing filed in an electronic medium). The fee is \$250 for each additional 50 sheets of paper or fraction thereof.																														
Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof (round up to a whole)																												
49 - 100 = 0	/50 = 0	x \$250.00 \$ 0.00																												
Surcharge of \$130.00 for furnishing the oath or declaration later than 30 months from the earliest claimed priority date (37 CFR 1.492(h)).																														
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%; padding: 2px;">CLAIMS</td> <td style="width: 25%; padding: 2px;">NUMBER FILED</td> <td style="width: 25%; padding: 2px;">NUMBER EXTRA</td> <td style="width: 25%; padding: 2px;">RATE</td> </tr> <tr> <td>Total claims</td> <td style="text-align: center;">64 - 20 =</td> <td style="text-align: center;">44</td> <td style="text-align: right; padding: 2px;">x \$50.00 \$ 2,200.00</td> </tr> <tr> <td>Independent claims</td> <td style="text-align: center;">7 - 3 =</td> <td style="text-align: center;">4</td> <td style="text-align: right; padding: 2px;">x \$200.00 \$ 800.00</td> </tr> <tr> <td colspan="2">Multiple Dependent Claims (if applicable) <input type="checkbox"/></td> <td style="text-align: center; padding: 2px;">+ \$360.00</td> <td style="text-align: right; padding: 2px;">\$</td> </tr> <tr> <td colspan="2" style="text-align: right; padding: 2px;">TOTAL OF ABOVE CALCULATIONS =</td> <td style="text-align: center; padding: 2px;">\$ 3,730.00</td> <td style="text-align: right; padding: 2px;">\$</td> </tr> </table>			CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE	Total claims	64 - 20 =	44	x \$50.00 \$ 2,200.00	Independent claims	7 - 3 =	4	x \$200.00 \$ 800.00	Multiple Dependent Claims (if applicable) <input type="checkbox"/>		+ \$360.00	\$	TOTAL OF ABOVE CALCULATIONS =		\$ 3,730.00	\$								
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<input checked="" type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2.																														
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%; padding: 2px;">SUBTOTAL =</td> <td style="width: 40%; text-align: right; padding: 2px;">\$ 1,865.00</td> </tr> <tr> <td colspan="2" style="text-align: right; padding: 2px;">Processing fee of \$130.00 for furnishing the English translation later than 30 months from the earliest claimed priority date (37 CFR 1.492(i)).</td> </tr> <tr> <td colspan="2" style="text-align: right; padding: 2px;">TOTAL NATIONAL FEE = \$ 1,865.00</td> </tr> </table>			SUBTOTAL =	\$ 1,865.00	Processing fee of \$130.00 for furnishing the English translation later than 30 months from the earliest claimed priority date (37 CFR 1.492(i)).		TOTAL NATIONAL FEE = \$ 1,865.00																							
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<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%; padding: 2px;">Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per</td> <td style="width: 40%; text-align: right; padding: 2px;">+ \$</td> </tr> <tr> <td colspan="2" style="text-align: right; padding: 2px;">TOTAL FEES ENCLOSED = \$ 1,865.00</td> </tr> </table>			Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per	+ \$	TOTAL FEES ENCLOSED = \$ 1,865.00																									
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<ul style="list-style-type: none"> a. <input checked="" type="checkbox"/> A check in the amount of <u>\$1,865.00</u> to cover the above fees is enclosed. b. <input type="checkbox"/> Please charge my Deposit Account <u>07-1896</u> in the amount of <u></u> to cover the above fees. A duplicate copy of this sheet is enclosed. c. <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account <u>07-1896</u>. A duplicate copy of this sheet is enclosed. d. <input type="checkbox"/> Fees are to be charged to a credit card. WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038. 																														
<p>NOTE: Where an appropriate time limit under 37 CFR 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the International Application to pending status.</p>																														
<p>SEND ALL CORRESPONDENCE TO:</p> <p>Lisa A. Haile, J.D., Ph.D. DLA Piper Rudnick Gray Cary US LLP 4365 Executive Drive, Suite 1100 San Diego, CA 92121-2133 USPTO Customer Number 28213</p>																														
<p> SIGNATURE</p> <p>Lisa A. Haile, J.D., Ph.D.</p>																														
<p>NAME</p>																														
<p>38,347</p>																														
<p>REGISTRATION NUMBER</p>																														

10/533514

JC20 Rec'd PCT/PTO 02 MAY 2005

PATENT
ATTORNEY DOCKET NO.: JHU1910-5

Certificate of Mailing under 37 CFR § 1.10

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2. Preliminary Amendment (3 pages);
3. Declaration (unsigned) (3 pages);
4. Certificate of Mailing under 37 CFR § 1.10 (1 page);
5. Check No. 577448 in the amount of \$1,865.00; and
6. Return Receipt Postcard

Stephanie Sharrett
Name of Person Mailing Papers


Signature